

BPHE

BRAZED PLATE
HEAT EXCHANGERS



BRAZED PLATE HEAT EXCHANGERS

Brazed plate heat exchangers are the perfect solution that allows to maintain high thermal performance at low operating costs.

Wide range of types, sizes, and numbers of plates and connections allows for optimizing the selection to particular application.

Copper or stainless brazing option offer additional application possibilities. Brazed plate heat exchangers guarantee reliable, long-term operation.



WHY CHOOSE **HEXONIC** BRAZED PLATE HEAT EXCHANGERS?



HIGH PERFORMANCE

Heat exchangers are designed for very efficient operations within a wide range of applications. They guarantee compact and flexible solutions.



WIDE RANGE OF APPLICATIONS

Heat exchangers are used in central heating and domestic hot water systems, ventilation, technological and air-conditioning installations, as well as in heat pumps and ice water generators.



CERTIFICATES AND STANDARDS

Manufactured in accordance with ASME, UL, PED, EAC.



RELIABILITY

Advanced technology and high quality materials offer durability and reliability.



FLEXIBLE DESIGN

We offer 1- or 2-pass versions with a choice of different types of connections such as: dual (external thread / soldering), internal thread, Victaulic, stainless steel flange, carbon steel flange.



CAIRO EASY SELECTION

User-friendly CAIRO Selection Software makes the selection process easy.

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BRAZED PLATE HEAT EXCHANGERS

DEDICATED TO HEATING OR COOLING SYSTEMS.

APPLICATION



DOMESTIC HOT WATER SYSTEMS



CENTRAL HEATING SYSTEMS



SOLAR AND GEOTHERMIC HEATING SYSTEMS



INSTALLATIONS WITH HEAT PUMP



INSTALLATIONS WITH FIREPLACE WITH WATER JACKET

ADVANTAGES



HIGH HEAT TRANSFER COEFFICIENT



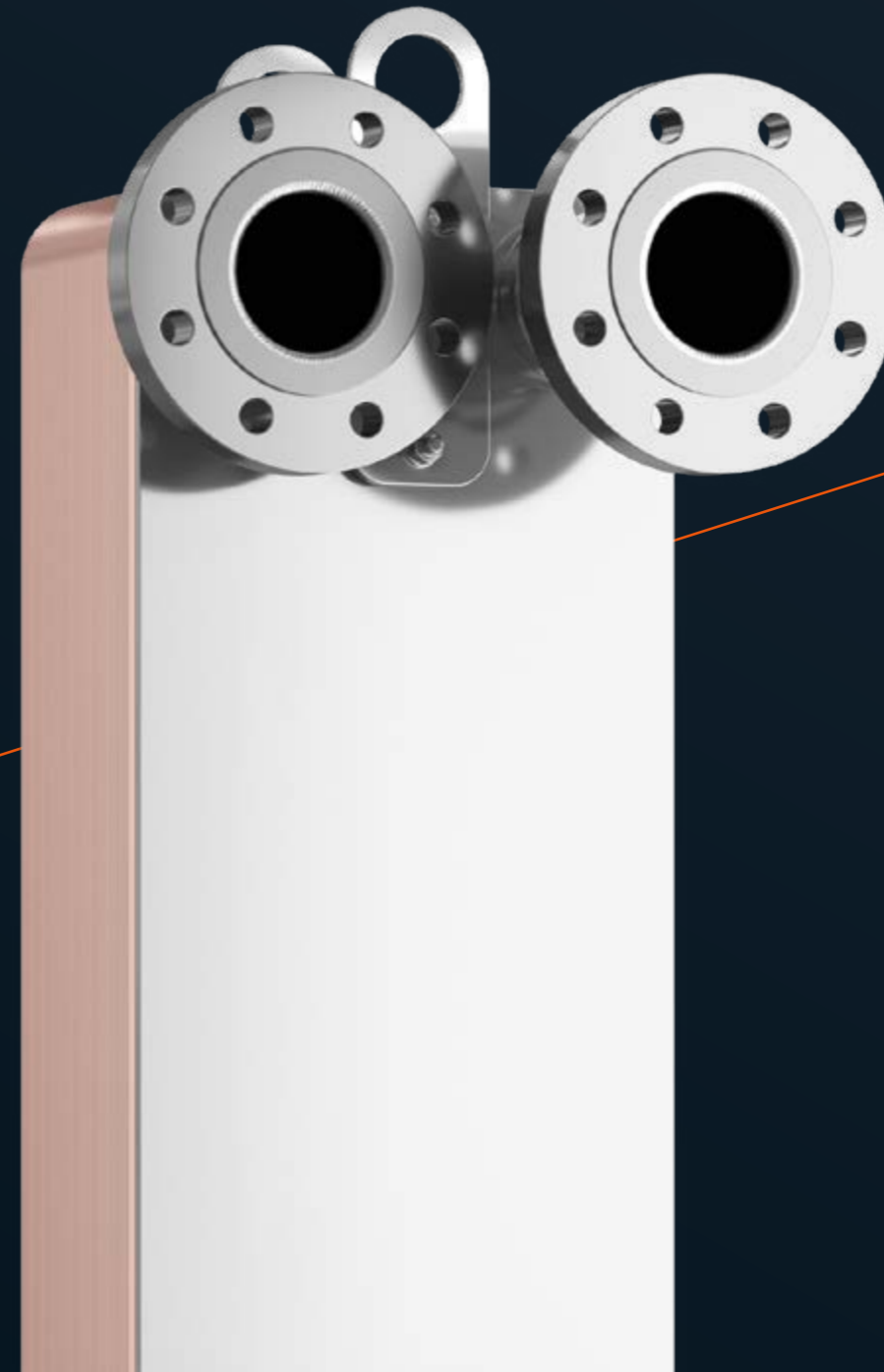
EASY ASSEMBLY AND DISMANTLE



COMPACT SIZE



RESISTANCE TO HIGH TEMPERATURE AND PRESSURE





MICROCHANNEL BRAZED
PLATE HEAT EXCHANGER

8%
↑

**INCREASE OF HEAT EXCHANGE
EFFICIENCY BY UP TO 8%**
COMPARING TO OTHER COMPETITIVE
MICROCHANNEL HEAT EXCHANGERS

9%
↓

**REDUCTION OF FLOW
RESISTANCE BY UP TO 9%**
COMPARING TO THE MOST
EFFICIENT MICROCHANNEL HEAT
EXCHANGER ON THE MARKET

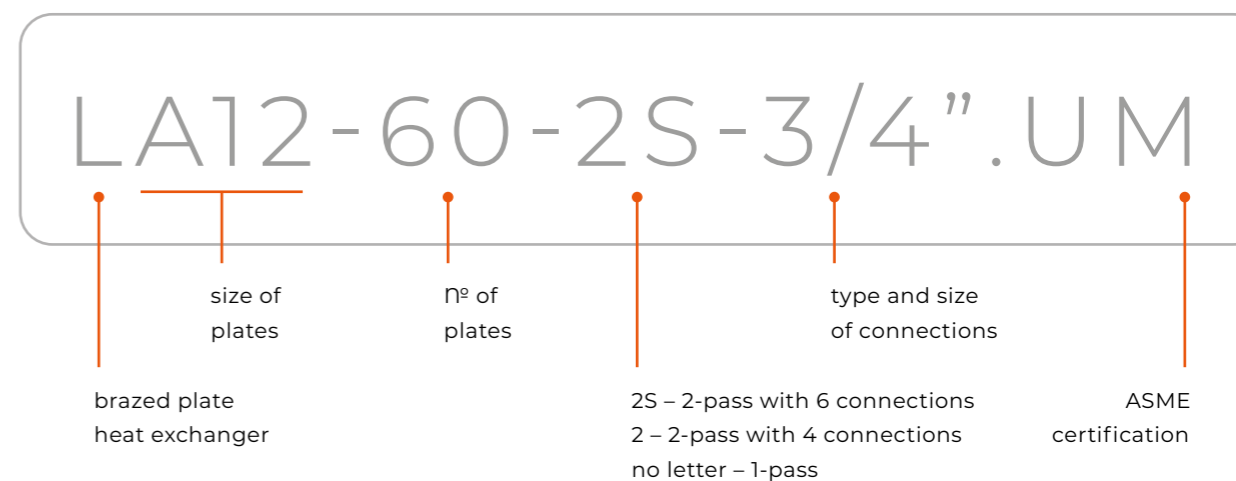
35%
↑

**INCREASE OF HEAT EXCHANGE
EFFICIENCY BY 35%**
COMPARING TO EXCHANGERS
WITH STANDARD HEAT PLATES

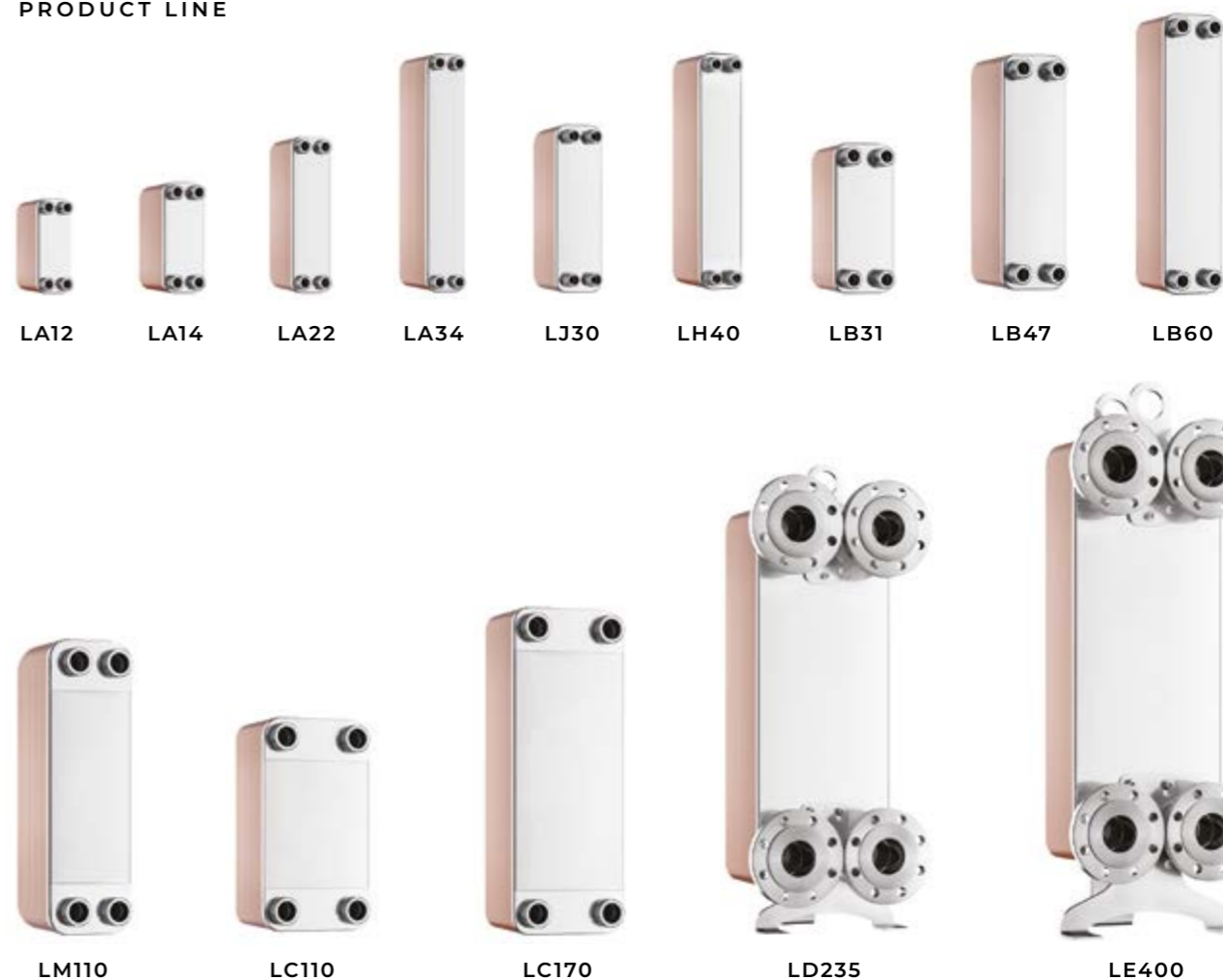


**HIGHER FLOW TURBULENCE
ENHANCES HEAT EXCHANGE**
THANKS TO OPTIMIZATION
OF FLOW VELOCITY

EXEMPLAR DESIGNATION



PRODUCT LINE



TECHNICAL DATA

STANDARD LOCATION OF CONNECTIONS

1-PASS HEAT EXCHANGER

- K1 / K4** — inlet / outlet hot side
K3 / K2 — inlet / outlet cold side

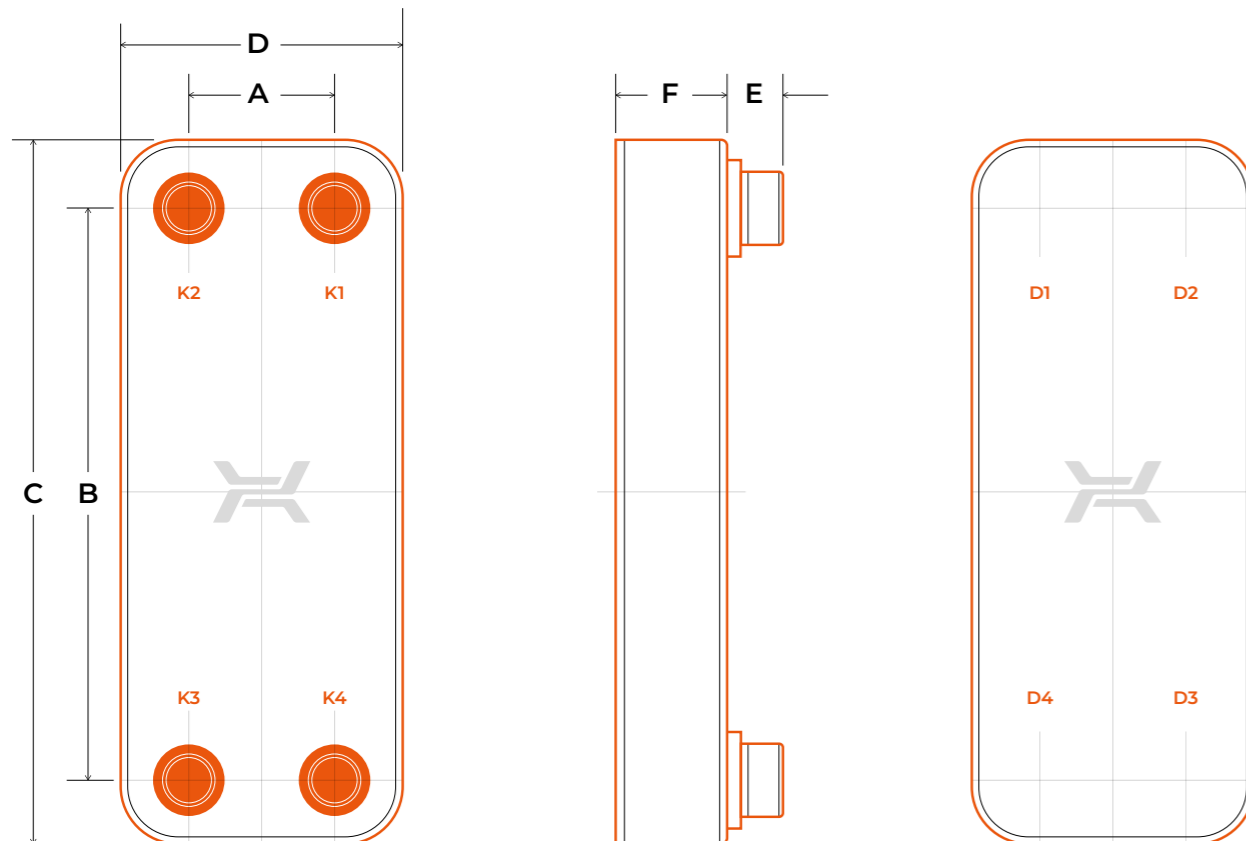
2-PASS HEAT EXCHANGER

- D4 / K4** — inlet / outlet hot side
K3 / D3 — inlet / outlet cold side

2-PASS WITH 6 CONNECTIONS

ADDITIONALLY:

- K1** — vent connection / inlet of central heating return
K2 — vent connection / inlet of domestic hot water circulation return



MATERIALS

- STAINLESS STEEL
 — COPPER BRAZING

EXEMPLARY MEDIA

- WATER
 — PROPYLENE GLYCOL SOLUTIONS
 — OTHER (CONSULT THE MANUFACTURER)

WORKING PARAMETERS

MAX. TEMPERATURE — 445°F

MIN. TEMPERATURE — -150°F

MAX. PRESSURE

LA, LB, LH — 435 PSI
 LM, LC, LD, LE — 362 PSI

TECHNICAL PARAMETERS

| Type | Dimensions | | | | | | Max N° of plates | Mass lb |
|-------|------------|-------|-------|-------|------------|------------------|---------------------|-------------------|
| | A | B | C | D | E | F | | |
| | in | in | in | in | in | in | | |
| LA14 | 1.65 | 6.46 | 7.95 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 0.6 + 0.049 × NP |
| LA22 | 1.65 | 10.24 | 11.81 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 0.8 + 0.073 × NP |
| LA34 | 1.65 | 17.01 | 18.46 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 1.2 + 0.116 × NP |
| LH40 | 1.69 | 16.34 | 18.23 | 3.50 | 1.10 | 0.35 + 0.09 × NP | 60 | 3.75 + 0.30 × NP |
| LB31 | 2.68 | 9.13 | 11.26 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 1.6 + 0.114 × NP |
| LB47 | 2.68 | 14.17 | 16.30 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 2.1 + 0.168 × NP |
| LB60 | 2.68 | 18.90 | 21.20 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 2.6 + 0.219 × NP |
| LM110 | 3.58 | 20.47 | 24.37 | 7.48 | 1.89 | 0.39 + 0.1 × NP | 200 | 8.4 + 0.408 × NP |
| LC110 | 6.69 | 14.88 | 18.23 | 10.04 | 1.50 | 0.39 + 0.09 × NP | 200 | 9.6 + 0.408 × NP |
| LC170 | 6.69 | 23.62 | 26.97 | 10.04 | 1.50 | 0.39 + 0.09 × NP | 200 | 12,3 + 0,617 × NP |
| LD235 | 8.03 | 26.85 | 30.87 | 12.04 | 4.72; 8.66 | 0.51 + 0.1 × NP | 280 | 50.04 + 0,75 × NP |
| LE400 | 9.45 | 33.90 | 39.68 | 15.24 | 4.49; 8.43 | 0.67 + 0.11 × NP | 400 | 94,6 + 1,625 × NP |

NP – number of plates | dim. F+/-3%

All dimensions and technical data are approximate only and may be changed without further notice.

LUNA

BRAZED PLATE HEAT EXCHANGERS
ENTIRELY MADE OF STAINLESS
MATERIALS DESIGNED TO MAINTAIN
HIGH SANITARY STANDARDS.

APPLICATION

WHEN HIGH LEVEL
OF HYGIENE IS CRUCIAL



SYSTEMS WITH
DEMINERALIZED WATER



DOMESTIC HOT
WATER SYSTEMS



COOLING SYSTEMS
WITH HIGH HYGIENIC
STANDARDS

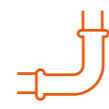
WHEN RELIABILITY
IS ESSENTIAL



CENTRAL HEATING
SYSTEMS



SYSTEMS WITH
AGGRESSIVE MEDIA



SYSTEMS WITH
GALVANIZED PIPES



INDUSTRIAL
COOLING SYSTEMS



HYDRAULIC
OIL COOLING

ADVANTAGES



STAINLESS BRAZING
ALLOWS HOMOGENEOUS
CONSTRUCTION



HIGH SANITARY
STANDARDS



RESISTANCE
TO HIGH TEMPERATURE
AND PRESSURE



RESISTANCE
TO CORROSION



HIGH
DURABILITY



WIDE RANGE
OF APPLICATIONS

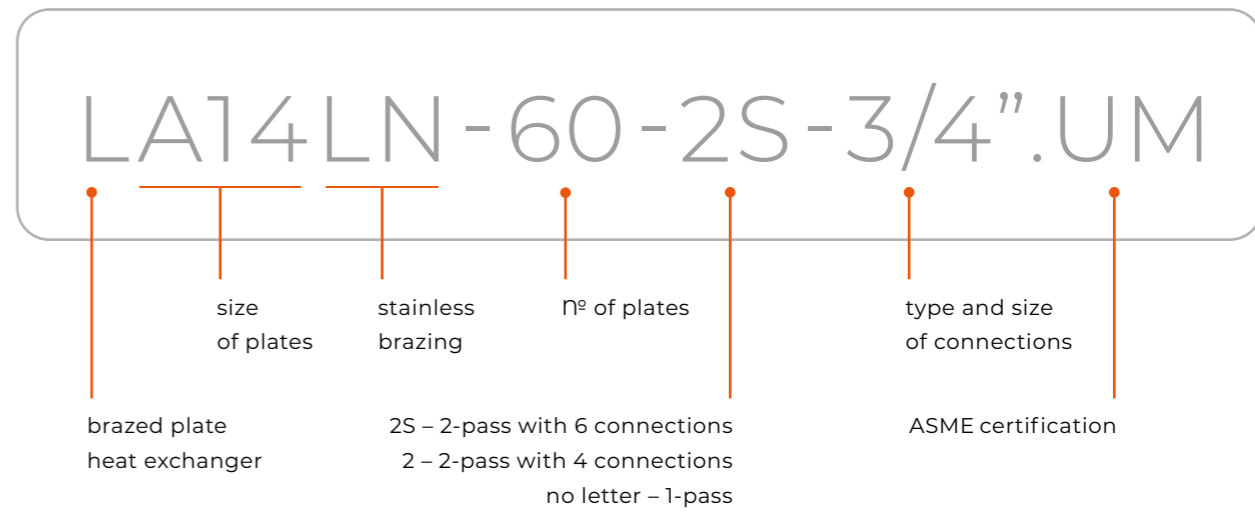


NO COPPER IONS
IN THE WATER





EXEMPLAR DESIGNATION



PRODUCT LINE



TECHNICAL DATA

STANDARD LOCATION OF CONNECTIONS

1-PASS HEAT EXCHANGER

- K1 / K4** — inlet / outlet hot side
- K3 / K2** — inlet / outlet cold side

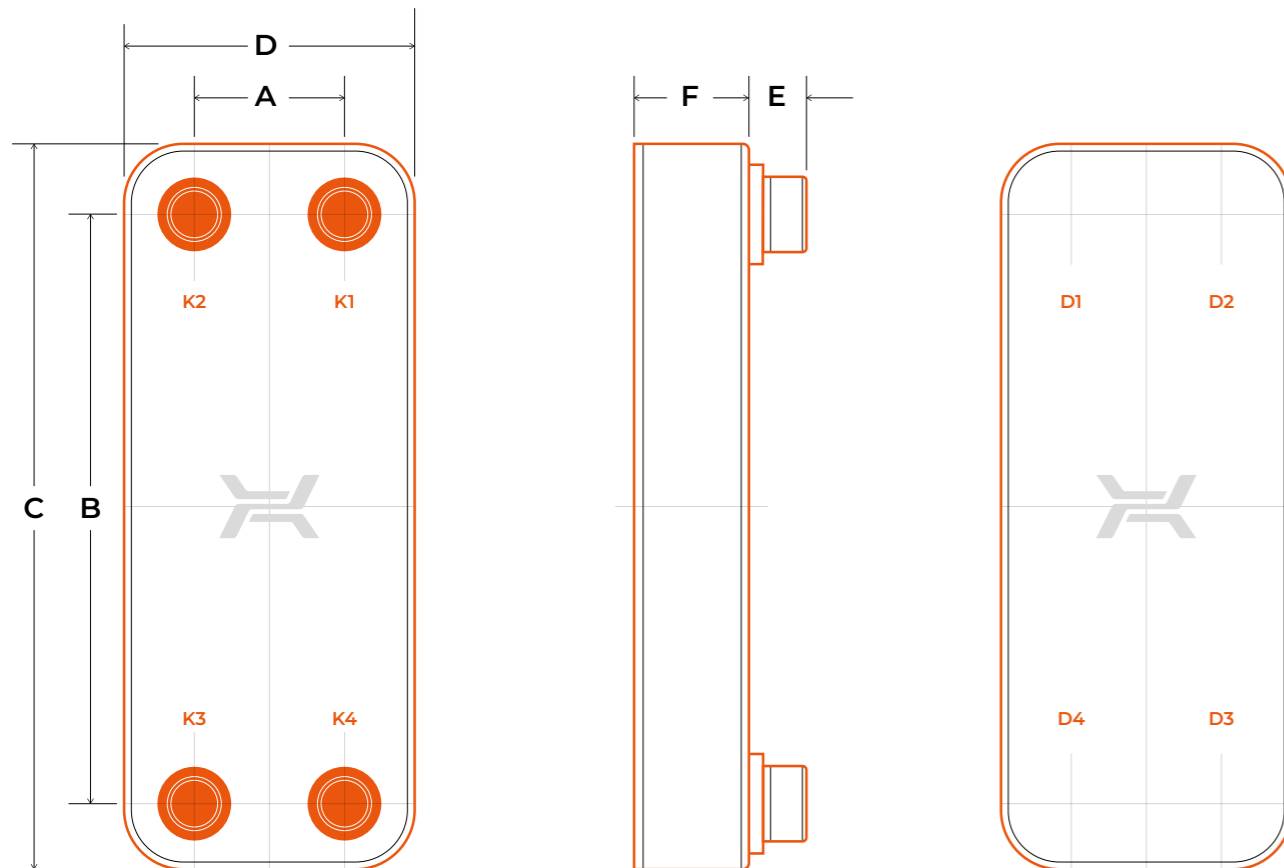
2-PASS HEAT EXCHANGER

- D4 / K4** — inlet / outlet hot side
- K3 / D3** — inlet / outlet cold side

2-PASS WITH 6 CONNECTIONS

ADDITIONALLY:

- K1** — vent connection / inlet of central heating return
- K2** — vent connection / inlet of domestic hot water circulation return



MATERIALS

- STAINLESS STEEL
- STAINLESS BRAZING

EXEMPLARY MEDIA

- WATER
- PROPYLENE GLYCOL SOLUTIONS
- OTHER (CONSULT THE MANUFACTURER)

WORKING PARAMETERS

- MAX. TEMPERATURE — 392°F
- MIN. TEMPERATURE — -319°F
- LM LN — -150°F
- MAX. PRESSURE
- LA LN, LB LN, LC LN — 290 PSI
- LM LN, LD LN — 232 PSI

TECHNICAL PARAMETERS

| Type | Dimensions | | | | | | Max N° of plates | Mass |
|---------|------------|-------|-------|-------|----------|------------------|---------------------|-------------------|
| | A | B | C | D | E | F | | |
| | in | in | in | in | in | in | lb | |
| LA14LN | 1.65 | 6.46 | 7.95 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 0.6 + 0.054 × NP |
| LA22LN | 1.65 | 10.24 | 11.81 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 0.8 + 0.075 × NP |
| LA34LN | 1.65 | 17.01 | 18.46 | 3.15 | 0.63 | 0.35 + 0.09 × NP | 60 | 1.2 + 0.112 × NP |
| LB31LN | 2.68 | 9.13 | 11.26 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 1.6 + 0.126 × NP |
| LB47LN | 2.68 | 14.17 | 16.30 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 2.2 + 0.174 × NP |
| LB60LN | 2.68 | 18.90 | 21.02 | 4.61 | 1.10 | 0.39 + 0.09 × NP | 150 | 2.7 + 0.219 × NP |
| LC170LN | 6.7 | 23.6 | 27.1 | 10.2 | 1.1; 3.9 | 0.43 + 0.09 × NP | 180 | 26.24 + 1.41 × NP |
| LC110LN | 6.69 | 14.88 | 18.23 | 10.04 | 1.50 | 0.39 + 0.09 × NP | 180 | 11.9 + 0.642 × NP |

NP – number of plates | dim. F+/-3%

All dimensions and technical data are approximate only and may be changed without further notice.

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BRAZED PLATE HEAT EXCHANGERS

DESIGNED FOR USE IN COOLING
OR HEATING INSTALLATIONS.
REFRIGERANT EVAPORATORS,
CONDENSERS AND ECONOMIZERS.

APPLICATION



CHILLERS

REFRIGERATION
UNITSHEAT
PUMPSICE WATER
GENERATORSCOOLING SYSTEMS
WITH SPECIAL
CONSTRUCTION

ADVANTAGES

OUTSTANDING
RELIABILITYOPTIMIZED
FOR MODERN
REFRIGERANTSRESISTANCE TO
CYCLIC FATIGUESPECIAL CHANNEL
PATTERN ENSURES
EFFECTIVE
EVAPORATION
OR CONDENSATIONRESISTANCE
TO FREEZING

EVAPORATORS

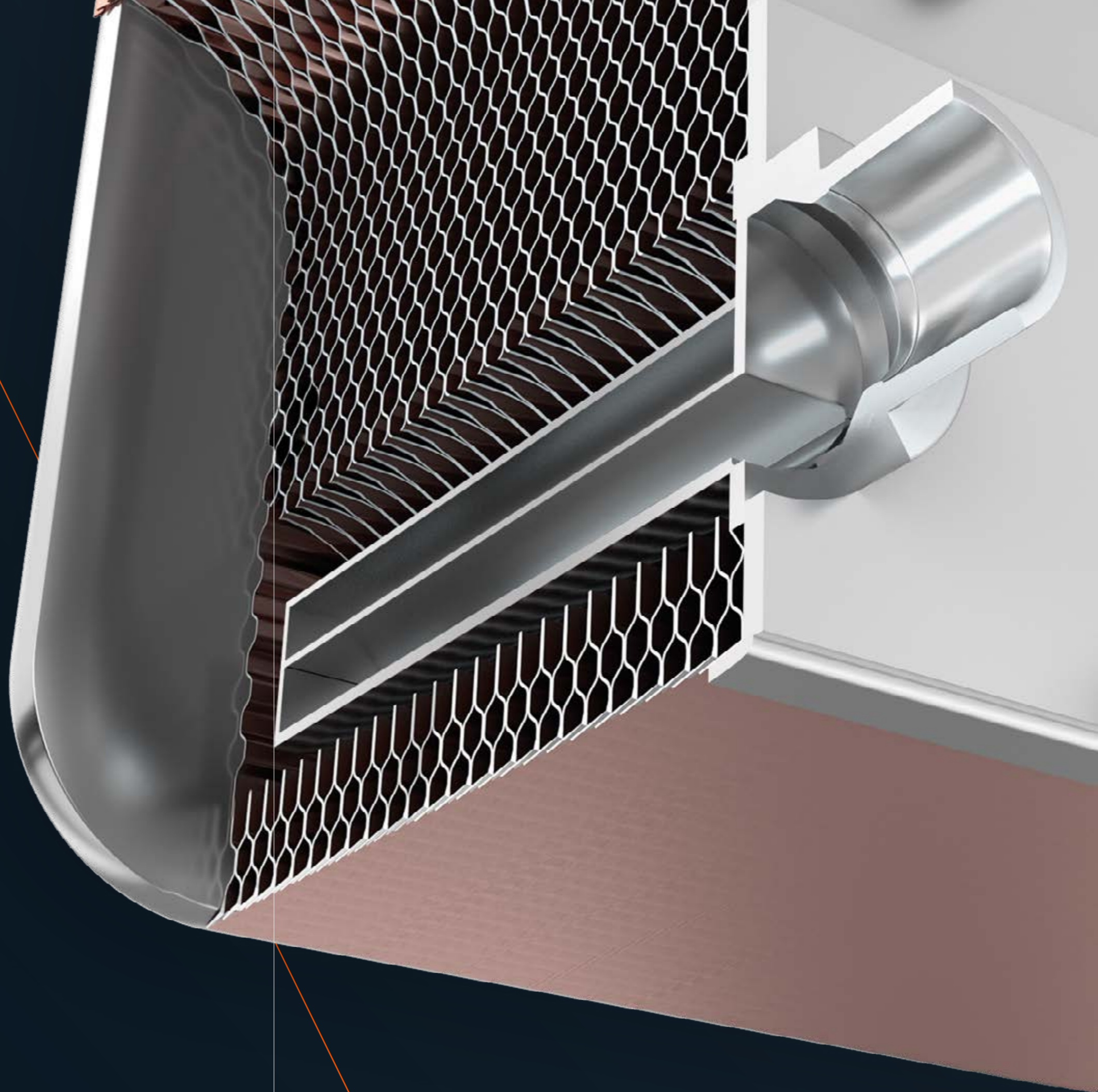
A two-phase refrigerant is sent to the bottom welded connection of the exchanger. Flowing through the channels it evaporates completely while acquiring the required degree of overheating. Water or glycol flows in counter-current flow.

CONDENSERS

Hot refrigerant vapours are sent to the top welded connection of the exchanger. Flowing through the channels they condense while acquiring the required degree of subcooling. Water and glycol flows in counter-current flow.

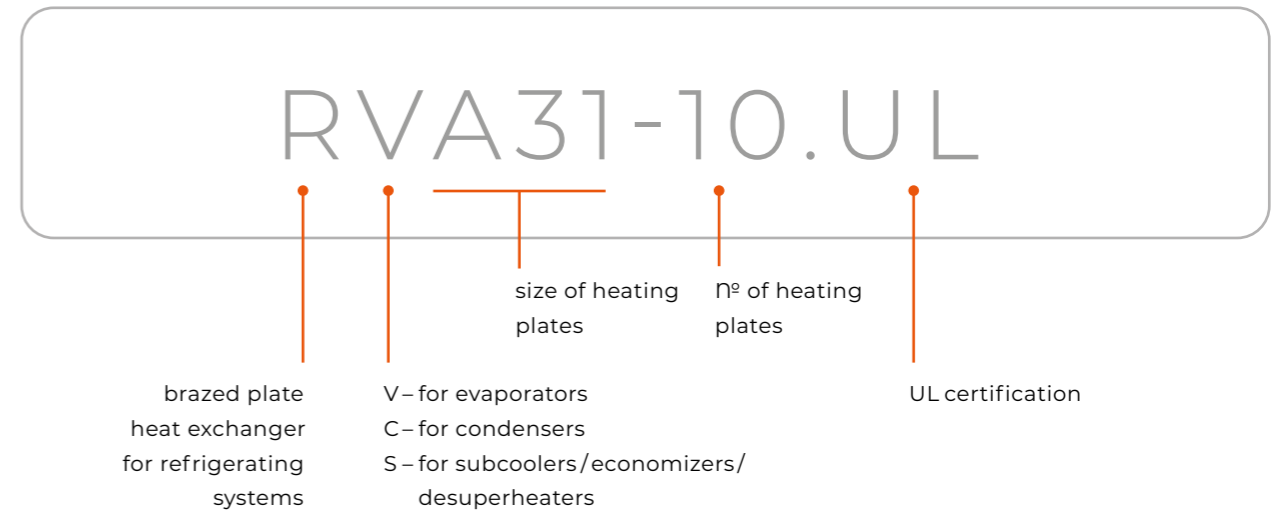
RDS SYSTEM

Hexonic developed the unique refrigerant distribution system RDS, for evaporators with potentially higher cooling performance. The system ensures even medium distribution in evaporator channels, while at the same time reducing steam overheating fluctuations.





EXEMPLAR DESIGNATION



PRODUCT LINE



RVA34

RVB60

RVB31

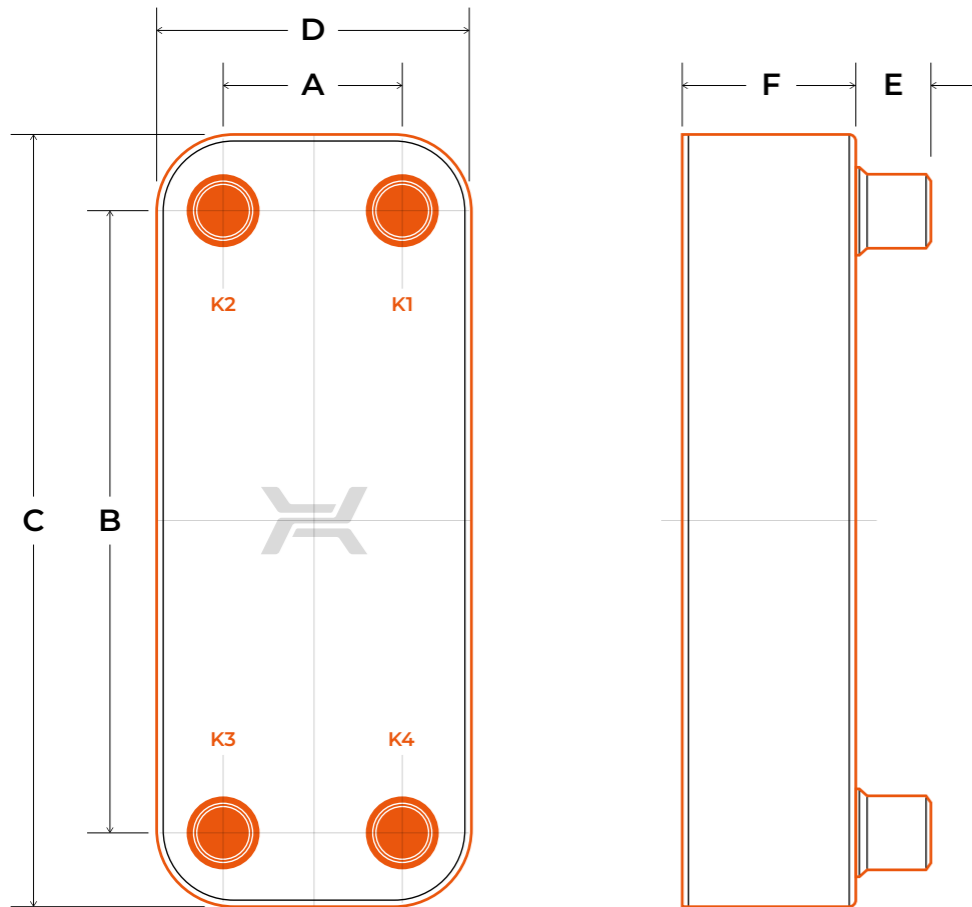
RVM110

TECHNICAL DATA

STANDARD LOCATION OF CONNECTIONS

(DEPENDING ON WHETHER IT IS EVAPORATOR OR CONDENSER)

- K 4 / K 1** — inlet /outlet of water or glycol
- K 3 / K 2** — inlet /outlet of refrigerant



MATERIALS

- STAINLESS STEEL
- COPPER BRAZING

EXEMPLARY MEDIA

REFRIGERANT SIDE

- R32, R452B, R454B, R1234ZE, R290, R410

OTHER SIDE

- WATER
- PROPYLENE GLYCOL SOLUTIONS
- OTHER (CONSULT THE MANUFACTURER)

WORKING PARAMETERS

MAX. TEMPERATURE — 302°F

MIN. TEMPERATURE — -150°F

MAX. PRESSURE — 653 PSI

TECHNICAL PARAMETERS

| Type | Dimensions | | | | | | Weight |
|------|------------|----|----|----|----|----|--------|
| | A | B | C | D | E | F | |
| | in | in | in | in | in | in | lb |

EVAPORATORS

| | | | | | | | |
|--------|-----|------|------|------|-----|--------------------|-------------------|
| RVA14 | 1,7 | 6,5 | 8,0 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.54 + 0.11 × NP |
| RVA22 | 1,7 | 10,2 | 11,8 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.98 + 0.16 × NP |
| RVA34 | 1,7 | 17,0 | 18,5 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 2.87 + 0.26 × NP |
| RVB31 | 2,7 | 9,1 | 11,3 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 3.75 + 0.25 × NP |
| RVB47 | 2,7 | 14,2 | 16,4 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 5.07 + 0.37 × NP |
| RVB60 | 2,7 | 18,9 | 21,2 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 6.17 + 0.48 × NP |
| RVC110 | 6,7 | 14,9 | 18,3 | 10,2 | 1,1 | 0.39 + 0.09 × NP | 19.40 + 0.9 × NP |
| RVC170 | 6,7 | 23,6 | 27,1 | 10,2 | 1,1 | 0.39 + 0.09 × NP | 25.35 + 1.36 × NP |
| RVM110 | 3,6 | 20,5 | 24,4 | 7,5 | 1,1 | 0.393 + 0.102 × NP | 18.52 + 0.9 × NP |
| RVD235 | 8,0 | 26,9 | 31,0 | 12,2 | 1,1 | 0.51 + 0.10 × NP | 88.18 + 1.83 × NP |

CONDENSERS

| | | | | | | | |
|--------|-----|------|------|------|-----|------------------|-------------------|
| RCA14 | 1,7 | 6,5 | 8,0 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.54 + 0.11 × NP |
| RCA22 | 1,7 | 10,2 | 11,8 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.98 + 0.16 × NP |
| RCA34 | 1,7 | 17,0 | 18,5 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 2.87 + 0.26 × NP |
| RCB31 | 2,7 | 9,1 | 11,3 | 4,8 | 1,1 | 0.35 + 0.09 × NP | 3.75 + 0.25 × NP |
| RCB47 | 2,7 | 14,2 | 16,4 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 5.07 + 0.37 × NP |
| RCB60 | 2,7 | 18,9 | 21,2 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 6.17 + 0.48 × NP |
| RCC110 | 6,7 | 14,9 | 18,3 | 10,2 | 1,1 | 0.39 + 0.09 × NP | 19.4 + 0.9 × NP |
| RCC170 | 6,7 | 23,6 | 27,1 | 10,2 | 1,1 | 0.39 + 0.09 × NP | 25.35 + 1.36 × NP |
| RCM110 | 3,6 | 20,5 | 24,4 | 7,5 | 1,1 | 0.39 + 0.10 × NP | 18.52 + 0.9 × NP |
| RCD235 | 8,0 | 26,9 | 31,0 | 12,2 | 1,1 | 0.51 + 0.10 × NP | 88.18 + 1.83 × NP |

SUBCOOLERS / ECONOMIZERS / DESUPERHEATERS

| | | | | | | | |
|-------|-----|------|------|-----|-----|------------------|------------------|
| RSA14 | 1,7 | 6,5 | 8,0 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.54 + 0.11 × NP |
| RSA22 | 1,7 | 10,2 | 11,8 | 3,2 | 0,6 | 0.35 + 0.09 × NP | 1.98 + 0.16 × NP |
| RSB31 | 2,7 | 9,1 | 11,3 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 3.75 + 0.25 × NP |
| RSB47 | 2,7 | 14,2 | 16,4 | 4,8 | 1,1 | 0.39 + 0.09 × NP | 5.07 + 0.37 × NP |

NP – number of plates | dim. F±/3%

All dimensions and technical data are approximate only and may be changed without further notice.

COOLING CAPACITY TABLE FOR LOW POWER INSTALLATIONS

Table with columns for Evaporator [dT_GROUND SOURCE=5K] and Condenser [dT_INSTALLATION=10°F]. Rows include refrigerant types (R32, R452B, R454B, R1234ZE, R290, R410) and capacity values (0.5 to 7.5) for various model numbers.

EVAPORATOR MEDIUM EVAPORATION TEMP. — 39/29/19°F OVERHEATING — 3K WATER 54/44°C — 44/34°F PG35 32/23°F, DPMAX<30KPA

CONDENSER MEDIUM CONDENSING TEMP. — 105/125/145°F OVERCOOLING — 2K WATER 85/95 — 105/115 — 125/135°F DPMAX<30KPA

COOLING CAPACITY TABLE FOR HIGH POWER INSTALLATIONS

Table with columns for Evaporator [dT_GROUND SOURCE=5K] and Condenser [dT_INSTALLATION=10°F]. Rows include refrigerant types (R32, R452B, R454B, R1234ZE, R290, R410) and capacity values (10 to 80) for various model numbers.

EVAPORATOR MEDIUM EVAPORATION TEMP. — 39/29/19°F OVERHEATING — 3K WATER 54/44°C — 44/34°F PG35 32/23°F, DPMAX<30KPA

CONDENSER MEDIUM CONDENSING TEMP. — 105/125/145°F OVERCOOLING — 2K WATER 85/95 — 105/115 — 125/135°F DPMAX<30KPA

TYPE AND SIZE OF CONNECTIONS

| L | Luna | R | Connections | | | | | | | | | | | | |
|-------|---------|--------|-------------|------|------|-----|--------|--------|----|--------|----|----|----|---|---|
| | | | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 2" | 3" | 4" | | |
| LA14 | LA14LN | | ⊙ | ⊙ | ⊙ | | | | | | | | | | |
| LA22 | LA22LN | | ⊙ | ⊙ | ⊙ | | | | | | | | | | |
| LA34 | LA34LN | RVA34 | RCA34 | ⊙⊙⊙ | ⊙⊙⊙ | ⊙⊙⊙ | | | | | | | | | |
| LH40 | | | | | ⊙ | ⊙ | | | | | | | | | |
| LB31 | LB31LN | RVB31 | RCB31 | | | ⊙⊙⊙ | ⊙⊙⊙ | ⊙⊙⊙ | ⊙ | | | | | | |
| LB47 | LB47LN | | | | | ⊙⊙ | ⊙⊙ | ⊙⊙ | ⊙ | | | | | | |
| LB60 | LB60LN | RVB60 | RCB60 | | | ⊙⊙⊙ | ⊙⊙⊙ | ⊙⊙⊙ | ⊙ | | | | | | |
| LM110 | LM110LN | RVM110 | RCM110 | | | | | | | ⊙ | | | | | |
| LC110 | LC110LN | | | | | | ⊙ | ⊙⊙ | ⊙⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | |
| LC170 | | | | | | | ⊙ | ⊙⊙ | ⊙⊙ | ⊙ | ⊙ | ⊙ | ⊙ | ⊙ | |
| LD235 | | | | | | | | | | | | | | ⊙ | |
| LE400 | | | | | | | | | | | | | | | ⊙ |

- ⊙ internal thread
- ⊙ dual (external thread and soldering)
- △ Victaulic
- ⊕ flange
- ⊙ welded connection for R-line

MOUNTING BRACKETS

MOUNTING BRACKETS ARE MANUFACTURED USING STAINLESS STEEL OR CARBON ZINC-PLATED STEEL



INSULATION

INSULATION MADE OF POLYURETHANE FOAM COVERED WITH ALUMINUM (APFI)

- MAX. WORKING TEMPERATURE: 275°F
- THICKNESS: 1.18 IN
- THERMAL CONDUCTIVITY: 0.015 BTU/FT. HOUR°F



INSULATION MADE OF EXPANDED POLYPROPYLENE (EPPI) WITH ALUMINUM (APFI)

- MAX. WORKING TEMPERATURE: 230°F
- THICKNESS: 1.10 IN
- THERMAL CONDUCTIVITY: 0.020 BTU/FT. HOUR°F



COLD INSULATION FOR R-LINE HEAT EXCHANGERS

- WORKING TEMPERATURE RANGE: -40°F TO 230°F
- THICKNESS: 0.787 IN
- THERMAL CONDUCTIVITY: 0.021 BTU/FT. HOUR°F



